

Remarks/Arguments

Claim Summary

By this Amendment, claims 1, 4 and 7 have been revised, claim 3 has been cancelled, and new claims 9-11 have been added.

Claims 1-2 and 4-11 are now pending in the application.

Non-Final Office Action

The Office Action is NON-Final as indicated at page 6 thereof. In this respect, it is noted for the record that the form PTOL-326 accompanying the Office Action erroneously indicates that the Office Action is Final.

The non-finality of the Office Action was confirmed in a telephone conference between the Examiner and the undersigned on September 26, 2007.

35 U.S.C. §103

Claims 1-3, 7 and 8 were rejected under 35 U.S.C. §103 as being unpatentable over Hohn et al. (EP 0708478) in view of Francis (US 6465353). Applicants respectfully traverse this rejection with respect to the now-pending claims.

Initially, it is noted that independent claims 1 and 7 have been revised herein to recite that the material forming the dark space shield is an electrical conductor. (Dependent claim 3 has thus been cancelled.)

At page 3 of the Office Action, the Examiner states that "Mohn et al. teach that the shield can be electrically conducting since it can be made of SiC."

However, silicon carbide is a semiconductor material which exhibits insulating properties in the absence of an applied voltage exceeding a threshold voltage. See, e.g., http://en.wikipedia.org/wiki/Silicon_carbide. SiC is not an electrical conductor, nor are the remaining material examples listed at column 3,

lines 53-54, of Mohn et al. Indeed, these materials are well known to function as insulators and/or insulating semiconductors.

For at least the reasons stated above, Applicants respectfully contend that the now-pending claims define over the combined teachings of Mohn et al. and Francis.

Claims 4-6 were rejected under 35 U.S.C. §103 as being unpatentable over Mohn et al. in view of Francis and Weichart et al. (US 2003/0075522). Applicants respectfully traverse this rejection with respect to the now-pending claims.

The Examiner essentially takes the position that it would be obvious to ground the plasma guard of Mohn et al. in view of the teachings of Weichart et al.

However, as discussed above, the plasma guard of Mohn et al. is formed of a material which functions as an electrical insulator. It clearly would not be obvious to one of ordinary skill to ground the ring guard insulator of Mohn et al.

For at least the reasons stated above, Applicants respectfully contend that the now-pending claims define over the combined teachings of Mohn et al., Francis and Weichart et al.

Claims 1-8 were rejected under 35 U.S.C. §103 as being unpatentable over Weichart et al. in view of Francis and Arnold et al. (US 5423971) or Scherer (GB 2310433) or Mohn et al. Applicants respectfully traverse this rejection with respect to the now-pending claims.

The Examiner acknowledges Weichart et al. does not teach a dark space shield overlying a peripheral portion of an upper surface of a substrate, but contends that it would be obvious to modify Weichart et al. in this respect based on the teachings of Arnold et al., Scherer or Mohn et al. Applicants respectfully disagree.

The dark space shields of Arnold are 9 and 19 and designed to prevent the development of parasitic plasmas on the back sides of the electrodes 5 or 8. Also, with respect to the elements which are designated 60 and 61 of Arnold, the

workpiece is fed from left to right through the chamber and thus these elements have no particular relationship with the substrate, and clearly the edges of the substrate would be exposed to the plasma in the chamber. A person skilled in the art would not combine the fixed process location of Weichart et al with the moving substrate of Arnold.

The dark space shield 6 of Scherer protects the side wall 5 of the target, as is clearly described. Again there are moving substrates, this time rotary, which pass under an opening in the diaphragm 14. Even if the diaphragm 13 was a dark space shield (and it is not described as such in this document), the substrates moving under the opening 14 in the diaphragm would not be protected, nor would their carriers, in the manner set out in the claim. A person skilled in the art would not combine Weichart et al. with Scherer in the fashion apparently suggested by the Examiner.

Finally, as already discussed, the relative portion of Mohn et al. is directed to an insulating ring guard. In contrast, the electrodes 5b of Wiechart et al. clearly must be electrically conductive. It would not be obvious to one of ordinary skill to modify the electrode 5b structure of Wiechart based on the insulating ring guard of Mohn et al.

For at least the reasons stated above, Applicants respectfully contend that the now pending claims define over Weichart et al. in view of Francis and Arnold et al. or Scherer or Mohn et al.

Conclusion

No other issues remaining, reconsideration and favorable action upon the claims 1-2 and 4-11 now pending in the application are requested.

Respectfully submitted,
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December 11, 2007

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